Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

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1. **(Currently Amended):** A method of scheduling data transmission from a source to a plurality of destinations comprising:

distributing data transmissions from said source by performing weighted scheduling of polling to destinations; and

transmitting data from said source to destinations with successful polls using a shared transmit data buffer.

2. **(Currently Amended):** The method according to claim 1 further comprising:

using weighted interleaved round robin scheduling in conjunction with a weight spreader function to schedule said polling.

3. **(Original):** The method according to claim 1 wherein said scheduling maintains fairness and reduces head-of-line blocking.

4. **(Original):** The method according to claim 1 further comprising:

assigning a weight value to help ensure that polled destinations have a high probability of being able to accept data.

5. **(Original):** The method according to claim 1 further comprising:

only polling destinations for which data is pending for transmission.

6. **(Original):** The method according to claim 1 further comprising:

assigning each destination a logarithmic weight value defining the relative rate at which the destination will be eligible to be polled.

7. **(Original):** The method according to claim 6 wherein a destination's relative weight is equal to two raised to the maximum logarithmic weight minus said assigned logarithmic weight.

8. **(Original):** The method according to claim 6 further comprising:

assigning each destination a sequence value, with destination of the same weights being assigned to a roughly evenly distributed sequence values so that said sequence values evenly distribute polling of destinations of the same relative weight.

9. **(Original):** The method according to claim 1 further comprising:
using a scheduler to cycle through a numerical sequence;
wherein a destination is eligible for polling if the destination has data queued and if a number n of LSBs of the destination sequence match the n LSBs of the master sequence number, where n is the destination's logarithmic weight value or where n equals zero.

10. **(Original):** The method according to claim 7 wherein said scheduling does not require a particular assignment of destination identifications because relative weights are assigned independently of a destination identification.

11. **(Original):** The method according to claim 8 wherein said scheduling does not require a particular assignment of destination identifications because sequence numbers are assigned independently of a destination identification.

12. **(Original):** The method according to claim 7 further comprising:
receiving data to a plurality of destinations from a wide area network;
holding said data in queues in a queue controller; and
for destinations with successful polls, transmitting data from said queues to a transmit data FIFO.

13. **(Original):** The method according to claim 12 further comprising:
signaling from said queue controller to a polling scheduler an identification for destinations with pending data.

Claims 14 to 28 are allowed

14. **(Original):** A method of detecting a last bit in a bit vector comprising:
determining a highest active bit position in said bit vector;
determining a lowest active bit position in said bit vector;
comparing said highest active bit position and said lowest active bit position and when equal determining that said bit vector contains just one active bit.

15 **(Original):** The method according to claim 14 wherein said lowest and highest bit positions are encoded as n-bit values, where 2^n indicates the width of said bit vector.

16 **(Original):** A method of cyclically outputting values encoded by a bit vector comprising:
determining a lowest active bit position value in said bit vector using a priority encoder;

outputting said lowest active bit position value;

feeding back said lowest active bit position value and said bit vector to a reset bit module for removing a bit at said lowest active bit position value; and

repeating said determining, outputting, and feeding back steps on a bit vector with said lowest active bit position reset until a terminal condition is reached.

17 **(Original):** The method according to claim 16 wherein said terminal condition is determined by:

determining a highest active bit position in said bit vector; and

comparing said lowest active bit position and said highest active bit position and when equal signaling that a last bit has been reached.

18 **(Original):** A traffic management device comprising:

a master sequence number that increments when a port selection cycle is completed;

a scheduler that reads polling parameters corresponding to port ids and selects ports for polling based on said parameters;

a poller for issuing polls to ports; and

a queue controller for emitting data units to ports that respond affirmatively to said polls.

19 **(Original):** The device according to claim 18 wherein said parameters include a port active parameter and wherein ports are not selected if said port active parameters indicates there is no data to send to said port.

20 **(Original):** The device according to claim 18 wherein said parameters include a port sequence parameter and wherein ports are not selected if said port sequence parameter does not match a specified number of bits of said master sequence number.

21 **(Original):** The device according to claim 20 wherein said specified number is determined by a port weight parameter.

22 **(Original):** The device according to claim 18 further comprising:

a poll request FIFO for holding port ids of ports selected for polling.

23 **(Original):** The device according to claim 18 further comprising:

a transmit data FIFO for holding data to be transmitted to ports with successful polls.

24 **(Original):** The device according to claim 18 further comprising:

a queue controller with per port FIFOs for holding data yet to be scheduled for transmission to ports with successful polls.

25 **(Original):** A communication device comprising:

an ATM up-link module providing centralized traffic management for a plurality of access line cards;

a plurality of access line modules for connecting to a plurality of destinations;

an engine for per port flow control and cell emission scheduling of downstream traffic; and

a polling sequencer comprising:

a sequencer that scans a sequencing table identifying loop ports which are eligible for polling;

a Poll Request FIFO wherein portIDs of eligible loop ports are placed; and

a poller that uses said portIDs from said Poll Request FIFO to poll ports.

26 **(Original):** The device according to claim 25 further comprising:

wherein said polling requests asserted transmit packet available signals indicating ports to which cells may be transmitted

27 **(Original):** A computer readable medium containing computer interpretable instructions describing a circuit layout for an integrated circuit that, when constructed according to said descriptions, will configure a circuit to embody the apparatus described in claim 18.

28 **(Original):** A communications system comprising:

a plurality of loop port modems for exchanging data with a plurality of subscribers;

a traffic management device for handling flow control and traffic management between said plurality of subscribers and a wide-area-network;

a loop port scheduler that scans sequencing parameters, said parameters indicating loop ports that are eligible for polling and identifies port ids of ports eligible for polling;

a poller that uses said port ids to poll ports to detect ports ready to accept data: and

a wide area network interface accepting data from a wide area network into and transmitting said data to ports ready to accept data.